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Research Article

PHARMACEUTICAL STUDY OF *GAURI GAIRIKADHYA CHURNA*

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ABSTRACT

Ayurveda is one of the most ancient health care systems. The main aim of Ayurveda is *Swasthasya swasthya rakshanam Aturasya vikara prashamanam* i.e.; promotion of health and eradication of diseases. The disease *Vyanga* is one of the *Kshudra roga.* Many formulations have been described in our classical texts regarding *Vyanga*. One among them is *Gauri gairikadhya Churna*. *Gauri gairikadhya churna* is a classical herbo-mineral formulation mentioned in *Basavarajeeyam, Kshudra roga adhikara* indicated for *Vyanga* as a *Lepa*. *Lepa* preparations are topical medicaments meant for external application. *Gauri gairikadhya churna* contains *Haridra, Daruharidra, Manjishta, Goghrita, Gaura sarshapa, Gairika, Ajaksheera* (as *Bhavana Dravya).* The pharmaceutical procedure adopted in this study are *Shodhana, Churna nirmana* and *Bhavana* of *Gauri gairikadhya churna*. *Bhavana* of the *Churna* is done with *Aja ksheera* which adds more potency to the formulation. Till now, no research work has been carried out to standardize the method of preparation of *Gauri gairikadhya churna*. Therefore, the present study has been carried out to standardize the method of preparation of *Gauri gairikadhya churna* mentioned in classics.

INTRODUCTION

Rasa shastra, a branch of Ayurveda is considered as Indian pharmaceutics and therapeutics of herbomineral preparation. The pharmaceutical study is the study of drug manufacturing. Most of the metals/minerals as such are not readily absorbed into the biological system. So, to make them suitable for internal use, specialized processing techniques like *Shodhana, Bhavana* etc. are adopted. By these procedures they are converted into non- toxic, safe and potent therapeutic forms.

Absorption of drugs through body surface deserves special care for its optimum delivery. *Lepa Kalpana* are the herbal/herbomineral preparations advised for external application. In Ayurveda, *Lepa Kalpana* is mainly described in *Sharangadhara Samhita*[2], *Sushrutha Samhita* and *Ashtanga hridaya*.

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Lepa are the key medicine for external application on skin. *Lepa* are used for wound healing, wound cleaning, pigmentation of skin etc. Hence the present study is planned to prepare the selected drug following all the methods mentioned in classical texts.

AIM AND OBJECTIVES

Pharmaceutical standardization of various steps involved in the preparation of *Gauri gairikadhya Churna*.

MATERIALS AND METHODS

Chief references: *Basavarajeeyam, Kshudra roga adhikara* 22/78-79.

The entire preparation of *Gauri gairikadhya churna* was carried out in the Department of Rasa shastra and Bhaishajya Kalpana, S.V.Ayurveda College, TTD, Tirupati, Andhra Pradesh.

The entire pharmaceutical study was carried out in four stages

Stage – I

- *Gairika shodhana*

Stage – II

- Preparation of *Haridra churna*
- Preparation of *Daru haridra churna*

- Preparation of *Manjishta churna*
- Preparation of *Gaura Sarshapa churna*

Stage – III

- Preparation of homogenous mixture

Stage – IV

- *Bhavana* of homogenous mixture with *Ajaksheera.*

***Gauri gairikadhya Churna* preparation**

Materials

- *Shuddha Gairika*- 260g
- *Haridra Churna*- 200g
- *Daru haridra Churna*- 200g
- *Manjishta Churna*- 200g
- *Gaura sarshapa Churna*- 180g
- *Go ghrita*- 200g
- *Aja ksheera*- Q.S

Method/Principle: *Shodhana, Churna nirmana, Bhavana*

Apparatus: *Khalwa yantra*, steel vessel, cloth, spatula, weighing machine.

Procedure

- *Ashuddha Gairika* was taken in a clean *Khalva yantra* and pounded to make fine powder.
- Mentioned quantity of *Go ghrita* was taken in *Loha darvi* and heated.
- Added fine powder of *Gairika*.
- *Bharjana* (frying) procedure was carried out until it attains dark red color.
- *Haridra, Daru haridra, Manjishta, Gaura sarshapa* are taken separately, powdered in *Khalwa yantra* and sieved through clean cloth to obtain fine powders.
- *Shuddha Gairika, Go ghrita* and *Churna* of the above-mentioned drugs are taken in *Khalwa yantra* and mixed well to form a homogenous mixture.
- To the homogenous mixture, *Ajaksheera* was added and triturated.
- Trituration was done until it attains smooth texture.
- After trituration the obtained paste was dried carefully and resultant dry powder was collected.

OBSERVATIONS

- During *Shodhana* of *Gairika*, the colour of *Gairika* changed from light red colour to brick red color.
- After mixing of *Churna* of all the ingredients a dark brown colored homogenous mixture was obtained.
- After *Bhavana* with *Ajaksheera* the final product was smooth, dark reddish brown in color. The paste was non-sticky when rolled between thumb and index finger. After drying the paste, reddish brown colour powder is obtained as a final product.

Images

Ashuddha gairika

Powdered *Ashuddha gairika*

Bharjana with *Go ghrita*

Shuddha gairika

Daru haridra

Daru haridra churna

Haridra

Haridra churna

Manjishta

Manjishta churna

Gaura Sarshapa

Gaura sarshapa churna

Go ghrita

Shuddha gairika

Aja ksheera

Homogenous Mixture

Addition of *Aja ksheera* to the homogenous mixture

Bhavana of the homogenous mixture with *Aja ksheera*

Gauri gairikadhya churna

Precautions

- Trituration should be carried out carefully to prevent spillage of material.
- *Churna* is to be preserved in an absolute sterile and moisture free container.

RESULTS

Table 1: Results of various practical done in the preparation of *Gauri gairikadhya churna*

Name of the practical	Initial weight (g)	Final weight (g)	Gain/ Loss in weight (g)
Gairika Shodhana	250g	285g	35g
Haridra Churna	250g	200g	50g
Daru haridra Churna	250g	220g	30g
Manjishta Churna	250g	240g	10g
Gaura sarshapa Churna	250g	180g	70g

Table 2: Result of preparation of homogenous mixture

Initial weight	Final weight	Loss in weight	Loss in percentage
1060g	1050g	10g	1%

Table 3: Results of *Bhavana* of homogenous mixture with *Ajaksheera*

Initial weight	Final weight	Gain in weight
1050g	1150g	100g

DISCUSSION

Discussion is an important part which deals with the explanation of various concepts that have been applied in carrying out any study. It leads us towards justification of concepts and makes us to draw out logical conclusions from any study. The use of metals and minerals in medicine is often associated with toxicity, but Ayurveda made them into biocompatible form by certain detoxification processes like *Shodhana, Bhavana* etc. which remove the toxic potential from minerals and imparts them with therapeutic efficacy.

Gairika Shodhana

According to Ayurveda *Prakasha*, *Shodhana* of *Gairika* was done by *Bharjana* with *Go ghrita* till it attains dark red color[3]. As it was roasted it becomes very smooth and converted into very fine powder. There was also increase in weight observed. The probable reason is in *Ashuddha Gairika* the presence of water and oxygen molecules increases the chances to have free ferrous ions. The body must protect itself from free ion which is highly toxic and participates in chemical reactions that generate free radicals. So, when ochre is roasted with ghee ferrous ions converted into ferric form[4].

***Churna nirmana* of herbal drugs**

Haridra, Daru haridra, Manjishta, Gaura sarshapa were made into a fine powder, according to the reference mentioned in *Sharangadhara samhita madhyama khanda.*

Gairika obtained after *Shodhana* is added to the fine powders of above drugs and mixed well to form a homogenous mixture. The entire homogenous mixture was subjected to *Bhavana* with *Aja ksheera*. *Bhavana* facilitates particle size reduction and homogenization leading to modification of properties (*Gunataradhana*) of the product.

Role of ingredients in the formulation *Gauri gairikadhya churna*

Haridra and *Daru haridra* possess *Rakta shamaka and Varnya* properties[5], *Manjishta* possess *Varnya* property, *Gaura sarshapa* has *Twak dosha hara* property[6], *Gairika* possess *Raktastambhaka, Pitta hara, Snigdha* property[7], *Go ghrita* has *Kantikaraka*, *Snigdha* property[8].

Role of *Ajaksheera as Bhavana dravya*

- A rejuvenating glow due to exfoliation of dead cells is also added benefit of this milk, it is due to the presence of Alpha Hydroxyl Acid (AHA).
- AHAs can be used to easily peel all types of skin with minimal risk. AHAs diminish corneocyte cohesion immediately above the granular layer by detaching and desquamating the stratum corneum.
- Thus, AHA peels have been popular in dermatological practice for many years. AHAs are usually applied in the form of superficial and medium-depth peels such as those used to treat acne, scars, melasma, hyperpigmentation, roughness, age spots, and seborrhea.[9]

CONCLUSION

Pharmaceutical standardization of various formulation is an important requisite for the establishment of their efficacy and consistent biological activity. The pharmaceutical procedures involved in this study are *Shodhana, Churna nirmana* and *Bhavana* of *Gauri gairikadhya churna.*

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